

SUSTAINABLE OPTIONS



Rahul Saxena
Sustainable Options

PROFILE OF SUSTAINABLE OPTIONS

Renewable Energy, Sustainable Development & Climate Change Mitigation

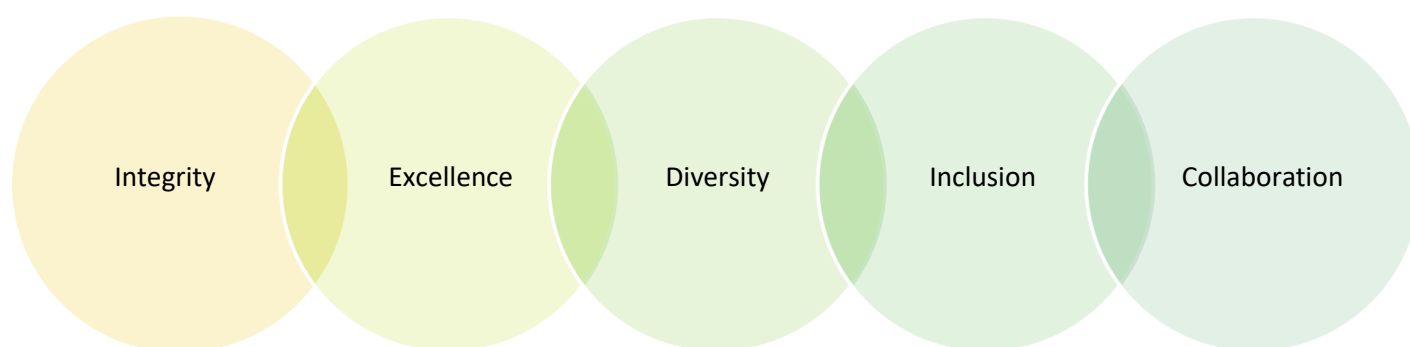
Sustainable Options is a Bhopal based organization working for promotion of clean energy technologies for **renewable energy generation, conservation of environment and promotion of bamboo based-technologies for sustainable development** for over 30 years.

Mission, Vision and Core Values

Our Mission: *Our raison d'être is to reimagine and restructure existing strategies and use of resources to support our clients with their Transition to Clean Sources of Energy , ESG, SDG & Net Zero Carbon goals through sustainable and profitable solutions*

Our Vision: *To establish ourselves as the market leaders in Switching to Clean Fuel Regime, Renewable Energy Management ,Carbon Credit Facilitation and Net Zero Carbon achievement for our clients and to promote strategies for high-growth Circular Economy business models*

Our Core Values



The Team

- Rahul Saxena – Chief Executive Officer
 - Founder of EEMG & Sustainable Options
 - Empanelled with Consultancy Development Center, Govt. of India (RE Projects)
 - Consultant for RE Power Projects
 - Consultant to IIT Roorkee
 - Supply Chain Management Expert with National Bamboo Mission and M.P. State Bamboo Mission
 - Biomass Supply Chain Management Expert with the World Resource Institute, New Delhi
 - Empanelled Consultant with M.P. Urja Vikas Nigam for Climate Change Mitigation & RE Projects
 - Consultant for Carbon Footprint Assessment & Reduction Strategies
- Dev Raghav – Managing Director
 - ESCP Business School *MIM (#5 Worldwide)*
 - BITS Pilani (*Chemical Engg.*)
 - Ex. Total Energies (*Fortune global 500*)

- Dr. SAR Hashmi – Senior Advisor Ex. Senior Scientist AMPRI-CSIR
- Dr. SKS Rathore – Senior Advisor Ex. Senior Scientist AMPRI-CSIR
- Mr. Mridul Khare – Senior Advisor (Renewable Energy)
- Mr. Bhavesh Lahori – Project Engineer
- Mr. Raj Suman – Plantation Expert
- Mr Harsh Patidar

Renewable Energy and Climate Change Mitigation

Sustainable Options (erstwhile “Environment and Energy Management Group”) provides consultancy services for power generation from clean and renewable sources of energy such as bamboo gasification & combustion, small hydro power, solar photo voltaic power systems, wind power and village electrification etc. We also provide services for environment clearances of projects, conducting environment impact assessment studies, design of effluent treatment plants, solid waste management, facilitation of all related statutory clearances etc.

EEMG PROVIDES THE FOLLOWING SERVICES FOR CLEAN POWER PROJECTS AND INDUSTRIAL POLLUTION CONTROL AND ENVIRONMENT MANAGEMENT

- **Consulting services for facilitating carbon credits for :**
 1. Plantation of bamboo or other appropriate mix of plants
 2. Biomass based power generation through gasification
 3. Production of Biochar from waste and it's applications for climate change mitigation
 4. Solar PV power
 5. Small hydro power
 6. Solar Wind Hybrid Energy
 7. Aggregating & supplying biomass briquettes/ pellets and raw biomass for switching to clean fuel regime
 8. Biogas based power plants and compressed biogas plants
- Consulting services for **facilitating energy transition, reduction of carbon foot prints and climate change mitigation**
- **Preparation of feasibility reports and DPRs** for power generation from renewable sources of energy
- **Resource assessment studies** for biomass /small hydro /urban waste etc for clean power generation
- **Turnkey services** for power generation from renewable and clean sources of energy Power evacuation works
- **Facilitation of power purchase agreement** for renewable energy based projects
- Facilitation of sale of power under third party mechanism
- **Integrated project of Bamboo Gasification** for thermal application and power generation with captive bamboo plantation
- **Promotion of waste to energy solutions**, solar photovoltaics (ground mounted & solar roof top), AD biogas, Biofuels and Hydrogen production
- Hydrological and Meteorological studies for thermal power plants

- Facilitation of environmental clearance
- **R&R Studies** i.e., preparation of rehabilitation and resettlement plan for project affected persons
- Energy Audit, preparation of DPR for investment grade project of energy efficiency enhancement projects and Implementation on turnkey basis
- Environment clearance services
- Environment impact assessment and design and monitoring of pollution control facilities
- Water audit and water quality monitoring
- Integrated solid waste management for waste to energy projects
- Integrated rural energy planning for sustainable development
- Forest Surveys
- Biodiversity assessments
- Socio economic assessments
- Remote sensing & GIS
- Natural Resource Management
- ESG reporting, CSR, Carbon footprint assessment and impact assessment
- Climate Change Advisory
- Life Cycle Assessments
- Energy Audits and Consulting

MAJOR WORKS DONE IN ENERGY SECTOR

1. Preparation of cluster and district level rural energy plans of 24 districts in Madhya Pradesh and 1 district in Chhattisgarh under IREP for **MP Urja Vikas Nigam and Ministry of non-conventional energy sources of the following districts:**

MADHYA PRADESH

1. Bhopal	2. Rajgarh
3. Shivpuri	4. Guna
5. Gwalior	6. Morena
7. Narsinghpur	8. Jabalpur
9. Katni	10. Dindori
11. Balaghat	12. Chhindwara
13. Mandla	14. Seoni
15. Satna	16. Rewa
17. Sidhi	18. Umariya
19. Shahdol	20. Anuppur
21. Khargone	22. Ujjain
23. Barwani	24. Vidisha

CHHATTISGARH

Mahasamund district

2. Biomass Assessment Studies and preparation of Detailed Project Reports for Biomass based power projects:

- Biomass assessment study and preparation of Detailed Project Reports for biomass based power projects in Hoshangabad and Satna in Madhya Pradesh and Korba and Bilaspur in Chhattisgarh for NTPC India Ltd
- Biomass assessment study and preparation of Detailed Project Reports for biomass based power projects in Rewa and Vidisha districts for NTPC India Ltd
- Preparation of Biomass Assessment Study report and Detailed project report for 7.5 MW biomass based power project for ASN Pvt Ltd in Katni
- Preparation of detailed project report for 10 MW biomass based power project for Orient Green Power Pvt Ltd in Narsinghpur
- Preparation of detailed project report for 10 MW biomass-based power project for Dainik Bhasker Group in Hoshangabad
- Preparation of detailed project report for 5MW biomass based power project for Dainik Bhasker Group in Harda
- Biomass assessment study of Badwaha block , district Khargone, for Harvest Energy Pvt Ltd for a 10 MW biomass based power project
- Biomass assessment study of Depalpur block , district Indore, Madhya Pradesh for Auomira Energy Pvt Ltd for a 10 MW biomass based power project
- Biomass assessment study of Bharuch district of Gujrat for a biomass-based gasifier project for Aster Silicates Pvt Ltd for thermal application
- Biomass assessment study of Kheda district of Gujrat for a biomass based gasifier project for Aster Silicates Pvt Ltd for thermal application
- Biomass assessment study of Chhindwara, Madhya Pradesh for Shalivahana Group for a proposed 12 MW biomass based power project
- Biomass assessment study of Umaria, Madhya Pradesh for Shalivahana Group for a proposed 10 MW biomass based power project
- Biomass assessment study of Khandawa, Madhya Pradesh for Iswam Group for a proposed 10 MW biomass-based power project
- Biomass assessment study of Khargone, Madhya Pradesh for Harvest Energy for a proposed 10 MW biomass based power project
- Biomass assessment study of Sehore, Madhya Pradesh for Jain Energy Ltd for a proposed 10MW biomass-based power project
- Biomass assessment study of Dewas, Madhya Pradesh for Jain Energy Ltd for a proposed 10MW biomass based power project
- Biomass assessment study of Jabalpur Madhya Pradesh for Surya Chakra Group for a proposed 10 MW biomass based power project
- Biomass assessment study of Chhatarpur, Madhya Pradesh for Suryachakra Group for a proposed 10 MW biomass based power project
- Biomass assessment study of Damoh, Madhya Pradesh for Suryachakra Group for a proposed 10 MW biomass based power project
- Biomass assessment study of Burhanpur, Madhya Pradesh for Harvest Energy for a proposed 10 MW biomass based power project

- Biomass assessment study of Surendra Nagar, Gujrat for TB Power Pvt Ltd for a proposed 12 MW biomass based power project
 - Biomass assessment study of Banaskantha, Gujrat for GAPS Pvt Ltd for a proposed 10 MW biomass based power project
 - Biomass assessment study of Bhavnagar, Gujrat for GAPS Pvt Ltd for a proposed 10 MW biomass based power project
 - Biomass assessment study of Rewa, Madhya Pradesh for Welspun Energy Ltd for their proposed 10 MW biomass based power project
 - Preparation of Biomass Assessment Study report and detailed project report for 1.2 MW biomass Gasification based power project for Mahaveer Green Energy Pvt Ltd in Vidisha
 - Preparation of Biomass Assessment Study report and Detailed project report for 1.2 MW biomass Gasification based power project for Pragya Energy Pvt Ltd in Jabalpur
 - Preparation of Biomass Assessment Study report and Detailed project report for 1.2 MW biomass Gasification based power project for B V Power Pvt Ltd in Bhind
 - Preparation of Biomass Assessment Study report and Detailed project report for 1.2 MW biomass Gasification based power project for Akshima Energy Pvt Ltd in Sehore
 - EPC of 1.2 MW power plant based on Biomass Gasification in village Mendori, district Bhopal, Madhya Pradesh for Anant Urja Pvt Ltd. It is a grid interactive power project with 100% producer gas engine
3. Biomass assessment study of taluka/block to explore the possibility of setting up a Biomass based power generation system on behalf of Ministry of New and Renewable Energy Sources, Government of India in the following talukas:
- Pandhurna Taluka, district Chhindwara, Madhya Pradesh
 - Ashtataluka, district Sehore, Madhya Pradesh
 - Tanukutaluka, district West Godavari, Andhra Pradesh
 - Movva taluka, district Krishna, Andhra Pradesh
 - Manasa taluka, district Neemach, Madhya Pradesh
 - Hattataluka, district Damoh, Madhya Pradesh
 - Khaknaar block, district Burhanpur, Madhya Pradesh
4. Detailed energy survey and preparation of block level integrated rural energy plan for M.P. UrjaVikas Nigam Ltd, Govt of Madhya Pradesh and Ministry of New and Renewable Sources of Energy, Government of India for:
- Jagdalpur block, district Bastar, Chhattisgarh
 - Jabalpur block, district Jabalpur, Madhya Pradesh
 - Manpur block district Umaria, Madhya Pradesh
 - Budhni block, district Sehore, Madhya Pradesh
 - Pratappur block, district Sarguja, Chhattisgarh
5. Survey and analysis of data on manufacturers and sale of household electrical appliances for implementation of EC Act for MP UrjaVikas Nigam Ltd, Bhopal and Bureau of Energy Efficiency, Ministry of Power, GOI, New Delhi.
6. Survey and preparation of 19 DPRs for SPV based power plants in hospitals/other establishments

in Jharkhand. (list enclosed)

7. Preparation of Detailed Project Report for the proposed 0.25 MW SPV based grid connected power plant at village Mendori, Bhopal for M/s Sun Planters, Bhopal.
8. **Survey and preparation of DPR of 579 unelectrified remote villages for RE work under decentralized Distributed Generation (DDG) component of RGGVY in Jharkhand.**
9. Feasibility report for assessment of solar radiation levels and power evacuation facility for the proposed 10 MW SPV based power plant of M/s Nahar Spinning Mill Bhopal.
10. **Survey and preparation of DPR of 300 unelectrified remote villages for RE work under decentralized Distributed Generation (DDG) component of RGGVY in Uttar Pradesh.**
11. Biomass Assessment Study for 4.9 MW Biomass based power plant for ALP Polymer Park Pvt Ltd Neemrana, Rajasthan.
12. Preparation of Detailed Project Report for 4.9 MW Biomass based power plant for ALP PolymerPark Pvt Ltd Neemrana, Rajasthan.

MAJOR WORKS DONE IN ENVIRONMENT MANAGEMENT AND POLLUTION CONTROL SECTOR

1. **Conducted Rapid EIA study for Bina power company** promoted by **Grasim Industries** and **Power Gen, U.K.** for their **1000 MW** Thermal power plant at Bina and provided consultancy services for ambient air monitoring and hydrological & meteorological study of Betwa river for three years.

2. Environmental Impact Assessment studies conducted by us:

- Pre commissioning Environment impact assessment of the proposed Bina Thermal power plant of Grasim Industries Ltd
- Rapid EIA of Panchshila Rubber Ltd, Malanpur
- Rapid EIA of Prabhakar Paper Mill .Mandideep.
- Rapid EIA of DharDistillery,Dhar.
- Rapid EIA of Ranbaxy Ltd.,Dewas.
- Rapid EIA of Steel Tubes of India ,Dewas.
- Rapid EIA of Kochar Oil Mills Ltd,Piparia
- Rapid EIA of Bhopal Distillery, Bhopal
- Rapid EIA of Seoni Distillery,
- Rapid EIA of M.P.Board & Paper Mills,Vidisha
- Environmental clearance of M/s DD Agro Energy (P) Ltd.,Khandawa-
- Environmental clearance of M/s ASN Industries (P) Ltd.,Katni
- Environmental clearance of M/s Minerva Power (P) Ltd Umaria
- Environmental clearance of M/s Shalivahana Green Energy (P) Ltd Chhindwara-
- Environmental clearance of M/s Shalivahana Green Energy (P) Ltd Balaghat -
- Environmental clearance of M/s Jain Energy Ltd ,Dewas -
- Environmental clearance of M/s Jain Energy Ltd ,Sehore-

- Environmental clearance of M/s Techno Electric & Engineering co. ltd. Rajgarh-

3. Ambient air monitoring & raw water analysis of Betwa river for Siemens Ltd.

4. Worked as consultant to IIT Roorki for one year for preparation of Atlas of potential sites for small hydropower in Narmada basin, Madhya Pradesh.

5. Design Of Effluent Treatment Plants for energy recovery by us:

- Dhar Distillery, Dhar
- Seoni Distillery, Seoni
- S.M.Milkose Ltd, Malanpur, Bhind
- Kamakhiya Steel Pvt Ltd, Malanpur
- Panchshila Rubber Ltd, Malanpur
- M.P.Board & Paper Mills, Vidisha
- Prabhakar Paper Mill .Mandideep

7. Hazardous Waste Management Works Done :

- Kamakhiya Steel Pvt Ltd, Malanpur
- Ramco Industries Ltd, Maksi

WE HAVE CONDUCTED OVER 50 ENERGY AUDITS OF INDUSTRIAL UNITS

MAJOR WORKS DONE IN PROJECT DEVELOPMENT AND CDM SECTOR

- Preparation of rehabilitation and resettlement plans for Hindalco Industries Ltd for their HINDALCO MAHAN project in Sidhi district involving 3.5 LTPA of Aluminium smelting unit and 5*150 MW thermal power plant.
- Study of usage of Aluminum in place of steel in tanker bodies for oil transportation.
- Baseline survey of domestic biogas plants for CDM project in selected districts of Madhya Pradesh and Kerala on behalf of GTZ, New Delhi.
- Baseline survey of domestic biogas plants for CDM project in selected districts of Madhya Pradesh and Kerala on behalf of INSEDA, New Delhi.
- Baseline survey of biogas plants and related activities for CDM project in Maharashtra, Uttar Pradesh and Gujrat on behalf of VNV Advisory Services LLP, Bangalore .
- Study of domestic biogas plants in Chindwara, Balaghat and Betul districts of Madhya Pradesh on behalf of GTZ, New Delhi.
- Baseline Survey for the implementation of biogas project in Punjab for Greneity Infocom Services Pvt Ltd.
- Baseline Survey for the implementation of biogas project in the states of Odisha, Punjab, West Bengal, Bihar and Jharkhand , India for Greneity Infocom Services Pvt Ltd.
- Baseline Survey for the implementation of biogas project in Punjab for Greneity Infocom Services Pvt Ltd.
- Providing consulting services to M/s Nestle India Ltd for facilitating carbon credits for their plantation project in Punjab- **Ongoing**

- Providing consulting services to M/s Puneet Syntex Pvt Ltd for facilitating carbon credits for their SPV power projects in Mumbai, Kolkata and Coimbatore.- **Ongoing**
- Providing consulting services to M/s Permali Wallace Ltd Bhopal for facilitating carbon credits for their fuel switch project.- **Ongoing**
- Providing consulting services to M.P. WALMI for facilitating carbon credits for their plantations -**Ongoing**
- Providing consulting services to M/s Permali Wallace Ltd Bhopal for facilitating carbon credits for their SPV power project.- **Ongoing**
- Carbon footprint mapping of Barmalt Malting Pvt Ltd ,Kotputli,Rajasthan.-**Ongoing**
- Biomass assessment study and development of supply chain of biomass for fuel switch for Vardhman Fabrics Ltd ,Budhani,Madhya Pradesh.-**Ongoing**

Our concept of Integrated Bamboo Project for Circular Economy

We have developed and set up an integrated approach for obtaining optimum benefits from bamboo based commercial activities. It's based on the concept of circular economy. Our integrated project approach envisages plantation of appropriate species of bamboo suitable for a given geo-climatic condition and the specific proposed end use applications of bamboo. Planting material of good quality is raised in nurseries and after primary / secondary hardening, the plantation of bamboo is done according to the established SOPs. On maturity, appropriate harvesting techniques are employed and the best post harvest technologies are selected and implemented for optimum utilization of bamboo for the proposed processes / products.

VARIOUS VALUE-ADDED PRODUCTS OF BAMBOO

- Large scale plantation of bamboo along with other suitable plants ensuring optimum growth and survival. **Such plantations are eligible for carbon credits.**
- Treatment of bamboo in pressure impregnation plant for preservation and protection from mold and borer.
- Round sticks of bamboo for various applications such as raw agarbatti, ice cream sticks, chick weaving, skewers etc.
- Treated bamboo poles for structures of cottages and gazebos and also for fencing.
- Bamboo roll-up chinks and table mats for interior works.
- Bamboo flooring tiles (indoor as well as for outdoor).
- Manufacturing of bamboo mat boards and strip boards.
- Pre-fabricated wall panels of bamboo.
- Pre-fabricated toilet structures using engineered bamboo.
- Bamboo furniture for homes.
- Bamboo furniture for schools.
- Mosquito repellent agarbattis.
- Treated bamboo poles of various sizes (with finished surface).
- Bamboo structure for polyhouse & green house for protected cultivation.
- Bamboo chopping boards
- Bamboo shelves & racks.
- **Clean and renewable power generation from bamboo gasification using 100% producer gas engines. The power so generated is eligible for carbon credits.**
- **Bamboo Biochar – produced as by product from gasification of process waste & waste/degraded bamboo is widely used for soil amendment, animal feed supplement and water-treatment. Biochar is a carbon negative product and its use is eligible for carbon credits.**
- **Activated Bamboo Charcoal (made from further activation of bamboo charcoal) is suitable for high end use in pharmaceuticals, industrial processes, heavy metal removal, cosmetics etc.)**
- **Production of Bamboo Ethanol.**
- **Bamboo charcoal briquettes for fuel.**

DISASTER MANAGEMENT WITH BAMBOO

- Pre-fabricated emergency shelters made of treated bamboo and engineered bamboo products.
- Pre fabricated bamboo structure for toilets.
- Pre fabricated bamboo rings for leach pit lining of toilets.

BAMBOO TREATMENT AND PROCESSING FACILITY:

- Pressure impregnation plant for bamboo treatment
- Cross Cutting Machine for bamboo
- Manual & Chain splitters for splitting whole bamboo
- Stick Sizing machine
- Round Stick making machine
- Internal Knot removing, slicing, sizing and planning machine
- Outside knot removing machine
- Bamboo slicing machine
- Round Stick Polishing machine
- Pulveriser for making bamboo and charcoal powder
- Bamboo chick weaving machine and accessories
- Fully automatic agarbatti rolling machines
- Hot / cold press equipment set for bamboo board/floor tile manufacturing
- **Gasifier system of appropriate capacity**
- **100% producer gas- based engines for power generation from producer gas generated from bamboo gasification**
- **Appropriate dryers based on waste heat from gasifiers and engine exhaust for food dehydration for their longer shelf life.**

Integrated Bamboo Processing Facility At Kerwa Dam Road Bhopal

Bamboo is the most versatile base material having multiple applications as an alternate environment friendly building material, handicrafts, alternate energy source, biochar/activated charcoal (a soil amendment agent) and a very potent climate change mitigation agent.

We are striving to work on all aspects of bamboo from promoting bamboo of appropriate varieties, treatment of bamboo for its preservation and longer life, manufacturing various value-added products such as round sticks (import substitution), raw agarbatti rolling, production of bamboo chicks, pre-fabricated wall panels, flooring, false ceilings and special structures such as bamboo polyhouses, watch towers, cottages, toilets etc.

The entire bamboo process waste is used as fuel in our gasifier for producing bamboo charcoal and generation of clean power through 100% producer gas-based engines.

In the light of increasing threat of greenhouse effect and global warming, it has become imperative to look for and promote viable alternatives to the existing energy intensive building materials such as cement and steel which are aiding and abetting the phenomenon of global warming with

Serious implications for the civilization as a whole.

Bamboo is one such material which fulfills the above criterion. We have been working on various aspects of bamboo as building material and feel that after due treatment and processing, bamboo could be a very cost effective, energy efficient, environment friendly and earthquake resistant building material. For this, we provide services for adoption of appropriate technology for various aspects of bambooutilization, right from the correct choice of bamboo species for plantation for specific use and geo climatic conditions , proper plantation and harvesting techniques, making value added products of treated bamboo through appropriate processing technologies and promote concerted efforts for propagation and promotion of bamboo as technically viable, earthquake resistant, cost effective and environment friendly building material for safe and affordable housing.

OUR PRODUCTS PORTFOLIO

- Bamboo biochar for soil amendment, animal feed supplement and water treatment.
- Activated Bamboo Charcoal for pharmaceuticals industrial adsorption, cosmetics etc.)
- Round sticks, raw agarbatti and incensed agarbattis
- Bamboo cottages and gazebos
- Bamboo roll-up chicks and table mats
- Bamboo flooring tiles (indoor as well as for outdoor)
- Bamboo mat board
- Pre-fabricated wall panels for bamboo house& bamboo stalls
- Pre-fabricated toilet structures
- Bamboo furniture
- Mosquito repellent agarbattis
- Treated bamboo poles of various sizes (with finished surface)
- Bamboo structure for polyhouse
- Bamboo cutting boards
- Bamboo screens
- Bamboo Shelves & racks
- Consulting services for plantation planning and execution

BAMBOO PROCESSING WING

We promote whole bamboo structures for cottages, gazebos and polyhouses/green houses, production of bamboo chicks for rollup blinds, yoga mats and false ceiling panels, pressure impregnation treatment of bamboo for its long life, bamboo charcoal /biochar, primary and secondary processing of bamboo for making various value-added products such as round sticks of bamboo, fibrillated strips of bamboo for board manufacturing, raw agarbatti and bamboo fencing poles etc. **We are empanelled with MP State Eco Tourism Development Board for developing eco friendly and energy efficient structures in Madhya Pradesh.**

DISASTER MANAGEMENT WITH BAMBOO

- Pre-fabricated emergency shelters made of treated bamboo and engineered bamboo products
- Pre fabricated bamboo structure for toilets
- Pre fabricated bamboo rings for leach pit lining of toilets

TRAINING FOR WORKING WITH BAMBOO FOR PROMOTING SUSTAINABLE EMPLOYMENT OPPORTUNITIES

It is well established that hundreds of products can be made from bamboo. From household items to the entire house, bamboo products are nothing new to society. Ancient civilizations were using bamboo for building long before they were using other materials and this trend has faded slightly over the centuries, but is now making a comeback in parts of the world, becoming a popular resource. We provide integrated services for training and promotion of various appropriate technologies with focus on various applications of bamboo for eco-friendly sustainable development.

We provide training to unemployed youth specially women in rural areas in various applications of bamboo in construction and handicraft sector. The training covers plantation harvesting, treatment, processing and production of value-added products such as roofing-sheets, flooring tiles, scaffolding materials, furniture, baskets & mat weaving and use of bamboo as biomass for power generation and large-scale plantation of bamboo on wasteland. Such training programmes open-up additional avenues for employment for rural poor.

BAMBOO BASED TRADES FOR SKILL DEVELOPMENT FOR SUSTAINABLE EMPLOYMENT

- Bamboo Propagation through intensive cultivation of bamboo on waste land and production of organic manure from bamboo plantation.
- Appropriate Plantation techniques
- Preservation and treatment of Bamboo for longer life
- Primary processing of Bamboo
- Bamboo Handicrafts and Furniture
- Bamboo based Structure and Buildings
- Bamboo based value added products
 - a. Round sticks of bamboo for Agarbatti
 - b. Bamboo sticks for brooms
 - c. Bamboo chick weaving
 - d. Bamboo charcoal for soap making
 - e. Poly house structures using treated bamboo poles

WORKS DONE IN BAMBOO & ECO-FRIENDLY TECHNOLOGY SECTOR

- Supply and erection of Watch Towers (Machaan) of treated whole Bamboo in Saagar, Hoshangabad and Bhopal districts.
- Supply and erection of training hall using treated whole Bamboo and bamboo chicks at Ahmadpur Nursery in Bhopal
- Supply and erection of polyhouse using treated whole Bamboo in Raisen district.

- Supply and erection of Bansi showroom using engineered bamboo boards, bamboo roofing sheets, bamboo floor tiles, treated Bamboo and chicks for curtains and false ceiling in Bhopal
- Supply and erection of Gazebo using treated whole Bamboo and bamboo chicks at WALMI Bhopal
- Supply and erection of a ticket room and gate using treated whole Bamboo and bamboo chicks false ceiling at Kuthotia eco-tourism spot in Sehore district
- Supply and erection of bamboo board flooring in Van Vihar, Bhopal
- Supply and erection of pre fabricated bamboo board bio toilet in Van Vihar, Bhopal
- Supply and installation of bamboo chick curtains and table mats
- Supply and installation of bamboo chick false ceiling in a school in Bhopal
- Production and supply of treated bamboo fencing poles
- Production and supply of treated bamboo wall panels
- Production and supply of round sticks of bamboo for agarbattis
- Production and supply of incensed agarbattis
- Production and supply of citronella based mosquito repellent agarbattis
- Production and supply of bamboo charcoal for biochar organic mix
- Production and supply of bamboo charcoal as activated carbon
- Construction of 50 eco friendly earthquake resistant houses made of stabilised mud blocks and funicular shells in village Dholavira, Gujrat under earthquake rehabilitation work in 2001-2002
- Pre-fabricated bamboo wall panels using treated bamboo poles in pressure impregnation treated plant using boric acid borax -Ashoka Hotel,Bhopal
- Pre fabricated bamboo wall panels using treated bamboo poles in pressure impregnation treated plant using boric acid borax for WALMI, Sehore and Raatibad
- Supply of pre-fabricated bamboo board wall panels and bamboo chicks to DFO Satna
- Bamboo board false ceiling in Kanha national park
- Supply and installation of Bamboo floor tiles and roll up bamboo chicks to state bamboo mission office
- Supply and installation of pre fabricated treated bamboo wall panels to vardhman constructions
- Regular supply of fibrillated bamboo strips to Permali Wallace Pvt Ltd for bamboo board manufacturing.
- Bamboo chicks for curtains, wall cladding and false ceiling for Taj Group of Hotels in Madhya Pradesh
- Supply of treated bamboo poles to the forest Department in Madhya Pradesh
- Bamboo board flooring at Pahadi Baba in Van Vihar, Bhopal.
- Supply and installation of eco friendly structures to MP Eco Tourism Board for their destinations across Madhya Pradesh.